UNITED STATES PATENT AND TRADEMARK OFFICE

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09/693,083	10/20/2000	Kia Silverbrook	ART8IUS	7865

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN,   2041
AUSTRALIA

EXAMINER
HENN, TIMOTHY J

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Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _20 October 2000_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-9_ is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3 and 6-9_ is/are rejected.

7)☒ Claim(s) _4 and 5_ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _20 October 2000_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _4_.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1.   The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Specification

2.   The disclosure is objected to because of the following informalities: Please fill in the missing application numbers (i.e. "09/_____") on pages 1, 2, 4 and 6.

        Appropriate correction is required.

3.   The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 4 and 5 recite limitations dealing with modulation of the fault tolerant digital data with high frequency spectral signals, which is not described in the specification.

Claim Objections

4.   Claim 8 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is

required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper

dependent form, or rewrite the claim(s) in independent form. The office notes that claim

8 recites the limitation that the invisible ink used to print the fault tolerant digital data is

an infra-red ink, however this limitation is already included in independent claim 7.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

6.   Claims 4 and 5 rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention.

The office notes that the modulation of the fault tolerant digital data with a high

frequency spectral component is not described in the specification in such a way as to

enable one skilled in the art to make and/or use the invention.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 1-3 and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Sato (US 6,650,365) in view of Soscia (US 5,996,893) in further view of Nelson et

al. (US 6,191,406).

[claim 1]

9.   In regard to claim 1, note that Sato discloses a camera system which transforms

image data by an image processing program including the steps of receiving the image

data corresponding to an image (Column 2, Line 44 – Column 3, Line 44); loading an

image processing program (Column 2, Line 44 – Column 3, Line 44); transforming the

image data with the image processing program to produce transformed image data

(Column 2, Line 44 – Column 3, Line 44) and storing the transformed image data and

the image processing program in a single file (Figure 2). Therefore, it can be seen that

Sato lacks the steps of encoding the transformed image data and the image processing

program into a fault tolerant digital form and printing out the digital form of the

transformed image data along with the encoded form of the image processing program

using an ink jet printing process with an invisible ink on a surface of a print media while

simultaneously printing out the transformed image data as a photographic image in a

visual, human readable form on the same surface of the print media.

10.   Soscia discloses a printing method which prints a human viewable image with

digital data printed over the top in an invisible ink (Figure 3; Column 6, Line 59 –

Column 7, Line 14) in order to provide a way to store data associated with a photograph

directly on the photograph (Column 1, Lines 30-34). It is noted that although Soscia

describes a preferred embodiment which stores audio data on a photograph, he also

discloses that other types of information can be stored on the photograph (Column 7, Lines 26-30). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of Soscia to print images taken by the camera of Sato, and to store a digital version of the image processing program and transformed image of Sato on the printed photograph, using the system of Soscia.

11.   It can further be seen that Sato in view of Soscia lacks a step of converting the digital format of the transformed image and the original image into a fault tolerant encoded digital form. However, Nelson et al. discloses a photograph with digital data printed over it in invisible ink in which the digital data is encoded in PDF 417, a well known fault tolerant form. It would have been obvious to one of ordinary skill in the art at the time the invention was made to encode the original and transformed image data of Sato in PDF417 format as taught by Nelson et al. prior to printing of the photograph to create a printed version of the digital data which is more resilient to physical damage without losing the ability to be read (Official Notice).

[claim 2]

12.   In regard to claim 2, note that Nelson et al. discloses the use of invisible infra-red ink (Column 4, Lines 35-44) which inherently has absorption in the infra-red spectrum and negligible absorption in the visible spectrum.

[claim 3]

In regard to claim 3, note that Nelson et al. discloses the use of PDF417 encoding for the fault tolerant digital data, which, as is well known in the art, uses Reed-Solomon

encoding (Official Notice).

[claim 6]

13.   In regard to claim 6, note that Sato in view of Soscia in further view of Nelson et

al. discloses a print means that is detachable from the camera (See Soscia, Figure 1).

Therefore, it can be seen that Sato in view of Soscia in further view of Nelson et al.

lacks a print roll means for storing the print media and an ink supply for the printer. The

office notes that Soscia discloses that "any one of a plurality of known digital printers

capable of printing on a substrate" (Column 3, Lines 19-21) may be used. It is well

known in the art to include ink supply reservoirs in printing devices to store a large

amount of ink to be able to print multiple sheets without refilling the printer. It is also

well known in the art to store print media in rolls to be able to place a large amount of

print media in a small location. Therefore, It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use both an ink supply and

a print media roll in the printer of Sato in view of Soscia in further view of Nelson et al. to

be able to print a large number of pictures without the need to constantly restock the

printer (Official Notice).

[claim 7]

14.   In regard to claim 7, note that Sato discloses a camera system for imaging an

image including means for outputting the image in a digital format (Figure 1, Item 12;

Column 2, Line 44 – Column 3, Line 44); the camera system further including means for

inputting an image processing program (Figure 1, Item 11); means for processing the

digital format of the image into a transformed version of the image in accordance with

the program steps of the image processing program (Figure 1, Items 15, 21-27; Column

2, Line 44 – Column 3, Line 44) and means for storing the transformed image and the

image processing program in a single file (Column 2, Line 44 – Column 3, Line 44).

Therefore, it can be seen that Sato lacks means for converting the digital image and the

image processing program into a fault tolerant digital form and means for printing on a

surface the transformed version of the image and the fault tolerant form of the encoded

digital form of the image and the image processing program using an ink jet printing

process, the fault tolerant form being printed in infra-red ink.

15.   Soscia discloses a printing device which prints a human viewable image with

digital data printed over the top in an invisible ink (Figure 3; Column 6, Line 59 –

Column 7, Line 14) in order to provide a way to store data associated with a photograph

directly on the photograph (Column 1, Lines 30-34). It is noted that although Soscia

describes a preferred embodiment which stores audio data on a photograph, he also

discloses that other types of information can be stored on the photograph (Column 7,

Lines 26-30). Therefore, It would have been obvious to one of ordinary skill in the art at

the time the invention was made to use the method of Soscia to print images taken by

the camera of Sato, and to store a digital version of the image and transformed image of

Sato on the printed photograph, using the system of Soscia. It can further be seen that

Sato in view of Soscia lacks a printed version of the original image data and the image

processing program. However, it is noted that Sato stores the transformed image data

and the image processing program to allow easy conversion back to the original image

when needed. It is obvious that given the system of Sato, either the transformed digital

image or the original image can be gotten from having the other and the image

processing program. Therefore, It would have been obvious to one of ordinary skill in

the art at the time the invention was made that the original image and a copy of the

image processing program can be stored instead of the transformed image and the

image processing program without losing any advantages in the system (Official

Notice).

16.   It can further be seen that Sato in view of Soscia lacks means for converting the

digital format of the transformed image and the original image into a fault tolerant

encoded digital form. However, Nelson et al. discloses a photograph with digital data

printed over it in invisible ink in which the digital data is encoded in PDF 417, a well

known fault tolerant form. It would have been obvious to one of ordinary skill in the art

at the time the invention was made to encode the original and transformed image data

of Sato in PDF417 format as taught by Nelson et al. prior to printing of the photograph

to create a printed version of the digital data which is more resilient to physical damage

without losing the ability to be read (Official Notice). It is also noted that Nelson et al.

discloses the use of infra-red ink for the printing of the secondary invisible image as a

currently preferred embodiment of the ink to be used for printing of the digital data on

the photographs (Column 4, Lines 35-44). Therefore, It would have been obvious to

one of ordinary skill in the art at the time the invention was made to use infra-red ink in

the printing system of Soscia.

[claim 8]

17.   In regard to claim 8, note that Nelson et al. discloses the use of invisible infra-red

ink (Column 4, Lines 35-44) which inherently has absorption in the infra-red spectrum

and negligible absorption in the visible spectrum.

18.   Claim 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Sato (US

6,650,365) in view of Soscia (US 5,996,893) in further view of Nelson et al. (US

6,191,406) as applied to claim 7 above, and further in view of Sharma et al. (US

5,726,693).

[claim 9]

19.   In regard to claim 9, note that Sato in view of Soscia in further view of Nelson et

al. discloses all limitations with the exception of the use of a page width print head using

an ink jet structure with a print roll media feeder as the printing means. However, it is

noted that Soscia discloses that "any one of a plurality of known digital printers capable

of printing on a substrate" (Column 3, Lines 19-21) may be used.

Sharma et al. discloses an ink jet page width printing means with feed rollers for moving

the print media (Figure 1; Abstract) which provides for a significantly reduced energy

requirement (Column 4, Lines 25-27). Therefore, It would have been obvious to one of

ordinary skill in the art at the time the invention was made to use the printer device of

Sharma et al. to reduce the total energy requirement of the system.

Double Patenting

20.   The nonstatutory double patenting rejection is based on a judicially created
doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the

unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

21.   Claims 1-4 and 6-9 are rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1-7 of U.S.

Patent No. 6,496,654 in view of Sato (US 6,650,365).

[claim 1]

22.   6,496,654 claims a method of printing digital data on a photograph, including the

steps of receiving image data corresponding to an image (claim 1, step a), converting

the image data into an encoded fault tolerant digital form (claim 1, step b) and printing

out the fault tolerant digital form of the image data using an ink jet printing process with

an invisible ink on a surface of a print media while simultaneously printing out the image

data as a photographic image representing the image data in a visual, human readable

form on the same surface (claim 1, step c). However 6,496,654 does not claim loading

an image processing program, transforming the image data into a transformed image

and storing or "printing" the original or transformed image along with the image

processing program.

23.   Sato. teaches the storing of a transformed image, which is created using an image processing program loaded onto a camera, and an image processing program together to allow easy transition between the transformed and original images with the help of the image processing program to create an image which is better suited for a particular display device (Column 6, Lines 36-47). Therefore, It would have been obvious to one of ordinary skill in the art at the time the invention was made to transform the original image using an image processing program and to store the image processing program and transformed image data together on the photograph to allow for high quality display of the image when read.

[claim 2]

24.   The office notes that claim 2 is a verbatim copy of claim 4 of 6,496,654.

[claims 3 and 4]

25.   The office notes that claims 3 and 4 are verbatim copies of claims 2 and 3 of 6,496,654 respectively.

[claim 6]

26.   The office notes that claim 6 is a verbatim copy of claim 5 of 6,496,654.

[claim 7]

27.   In regard to claim 7, note that 6,496,654 claims an apparatus for printing in infra-red ink encoded fault tolerant digital data on a photograph, the apparatus including a camera system for imaging an image and for outputting the image in a digital format (claim 6, item a), means for processing the image data into a fault tolerant encoded digital form (claim 6, item b) and means for printing the image and the fault tolerant

encoded digital form using an ink jet printing process, the fault tolerant encoded digital

form being printed using an infra-red ink (claim 6, item c). However 6,496,654 does not

claim loading an image processing program, transforming the image data into a

transformed image and storing or "printing" the original or transformed image along with

the image processing program.

28.   Sato. teaches the storing of a transformed image, which is created using an

image processing program loaded onto a camera, and an image processing program

together to allow easy transition between the transformed and original images with the

help of the image processing program to create an image which is better suited for a

particular display device (Column 6, Lines 36-47). Therefore, It would have been

obvious to one of ordinary skill in the art at the time the invention was made to transform

the original image using an image processing program and to store the image

processing program and transformed image data together on the photograph to allow

for high quality display of the image when read. As mentioned above with regard to

claim 7, it also would have been obvious to store the original image and the image

processing program as which image is stored is not critical to functionality of the system

of Sato.

[claim 8]

29.   In regard to claim 8, the office notes that 6,496,654 claims the use of infra-red ink

(claim 6, item c).

[claim 9]

30.   The office notes that claim 9 is a verbatim copy of claim 7 of 6,496,654.

31.   Claims 1-9 are provisionally rejected under the judicially created doctrine of

obviousness-type double patenting as being unpatentable over claims 1-9 of copending

Application No. 09/693,134 in view of Sato (US 6,650,365).

[claim 1]

32.   09/693,134 claims a method for printing digital data on a photograph comprising

the steps of receiving image data corresponding to an image (claim 1, step a), loading

an image processing program (claim 1, step b), transforming the image data using the

image processing program(claim 1, step c), converting image and image related data

into a fault tolerant digital form (claim 1, step e) and printing out the fault tolerant digital

data using an ink jet printing process with an invisible ink on a surface of a print media

while simultaneously printing out image data as a photographic image in a visual,

human readable form on the same surface of the print media (claim 1, step f). However

09/693,134 does not claim loading an image processing program, transforming the

image data into a transformed image and storing or "printing" the original or transformed

image along with the image processing program.

33.   Sato. teaches the storing of a transformed image, which is created using an

image processing program loaded onto a camera, and an image processing program

together to allow easy transition between the transformed and original images with the

help of the image processing program to create an image which is better suited for a

particular display device (Column 6, Lines 36-47). Therefore, It would have been

obvious to one of ordinary skill in the art at the time the invention was made to transform

the original image using an image processing program and to store the image

processing program and transformed image data together on the photograph to allow

for high quality display of the image when read.

[claims 2-6]

34.   The office notes that claims 2-6 of 09/693,134 are verbatim copies of claims 2-6

of the present application.

[claim 7]

35.   In regard to claim 7, note that 09/693,134 claims an apparatus for printing in

invisible ink encoded fault tolerant digital data on a photograph, the apparatus including

a camera system for imaging an image including means for outputting the image in a

digital format, the camera including means for inputting an image processing program

(claim 7, item a), means for processing the digital format of the image into a

transformed version of the image in accordance with the steps of the image processing

program (claim 7, item b), means for converting the digital format of the image and other

image related data into a fault tolerant form (claim 7, item c) and means for printing on a

surface the transformed version of the image and the fault tolerant encoded digital form

using an ink jet printing process, the fault tolerant encoded digital form being printed

using an infra-red ink (claim 7, item d).   However 09/693,134 does not claim loading an

image processing program, transforming the image data into a transformed image and

storing or "printing" the original or transformed image along with the image processing

program.

36.   Sato. teaches the storing of a transformed image, which is created using an

image processing program loaded onto a camera, and an image processing program

together to allow easy transition between the transformed and original images with the

help of the image processing program to create an image which is better suited for a

particular display device (Column 6, Lines 36-47). Therefore, It would have been

obvious to one of ordinary skill in the art at the time the invention was made to transform

the original image using an image processing program and to store the image

processing program and transformed image data together on the photograph to allow

for high quality display of the image when read. As mentioned above with regard to

claim 7, it also would have been obvious to store the original image and the image

processing program as which image is stored is not critical to functionality of the system

of Sato.

[claims 8-9]

37.   The office notes that claims 8 and 9 of 09/693,134 are verbatim copies of claims

8 and 9 of the present application.

This is a <u>provisional</u> obviousness-type double patenting rejection.

Allowable Subject Matter

38.   Claims 4 and 5 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

[claims 4 and 5]

39.   In regard to claims 4 and 5, the prior art does not teach or fairly suggest the modulation of a fault tolerant encoded data signal with a high frequency spectral component before printing of the fault tolerant encoded data. However, the allowance of claims 4 and 5 may be revisited pending any amendments made to overcome 35 U.S.C. §112 rejections.

Conclusion

40.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following prior art describes some of the features of the PDF417 format:

i.	Maltsev	US 5,716,219

The following prior art further shows the current state of the art in printing in visible and invisible inks:

ii.	Maruyama et al.	US 5,547,501
iii.	McIntyre et al.	US 6,102,505

41.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy J Henn whose telephone number is (703) 305-8327. The examiner can normally be reached on M-F 7:30 AM - 5:00 PM, alternate Fridays off.

    If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on (703) 305-4929. The fax phone

number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TJH
3/5/2004

WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600